JAS-ANZ
M4570910IN
SEECO
An ISO 9001 - 2008 Certified Company

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company
Building, Geo-Tech & Highway Material Research Laboratory
Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653
E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 10-03-2015

REPORT ON DESIGN OF CONCRETE MIX OF GRADE, M- 25

Sub: Design of concrete Mix of Grade M-25.
{Name of Work*: Development of water body at J.P Park in ward No-17 }
Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor, Bangalore.
Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

A-1. STIPULATION FOR PROPORTIONING:-

1. Grade designation	M-25 N /mm^2
2. Type of Cement	OPC -43 Grade, Zuari.
3. Maximum nominal size of aggregate	20 mm
4. Minimum cement content	320
5. Maximum water-cement ratio	0.5
6. Workability	100mm slump
7. Exposure condition	Moderate
8. Method of concrete placing	RMC
9. Degree of supervision	Good
10.Type of aggregate	Crushed angular aggregate
11. Maximum cement content	450

A-2. TEST DATA FOR MATERIALS

a). Cement used	OPC 43 Grade conforming to IS 8112-1989.
b). Specific gravity of cement	3.10
c). Chemical admixture	Nil
d). Specific gravity of:	
a) Coarse aggregate	2.60
b) Fine aggregate	2.60
e) Water absorption:	
a) Coarse aggregate	0.5
b) Fine aggregate	2.0
e) Density of	
a) Cement	1350 kg/m^3
b) Coarse aggregate	1600 kg/m^3
c) Fine aggregate	1600 kg/m^3
f) Free(surface moisture).	
1) Coarse Aggregate	: Nil (Adsorbed moisture also nil)
2) Fine aggregate	: Nil

SEECO LABORATORIES Bangalore

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

Scanned by CamScanner

g) Sieve Analysis:-

1. Coarse aggregate:- Fraction I – 20mm aggregate
Fraction II – 12.5mm aggregate

IS Sieve mm	Analysis of Coarse Aggregate Fraction (% Passing)		% of Different Fractions		Combined (100%)	Required gradation as per IS: 383-1970	Remarks
	I	II	I 65%	II 35%			
40	100	100	65.0	35.0	100.00	100	Conforming to Table-2 of IS: 383-1970 (Reaffirmed on 2007)
20	95.80	100	62.27	35.0	97.27	95-100	
10	39.00	44.50	25.35	15.57	40.97	25 -55	
4.75	---	--	---	---	--	0 -10	

2. **Fine aggregates (River Sand):**

IS Sieve Size, mm	**Percentage Passing**	Specification as Per IS: 383-1970(Reaffirmed 2007) **Percentage Passing**			Remarks
		Zone-I	**Zone-II**	**Zone -III**	
04.75	**98.50**	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	**89.80**	60-95	75-100	85-100	
01.18	**77.00**	30-70	55-90	75-100	
600. mic	**41.40**	15.34	35-59	60-79	
300.mic	**18.40**	5-20	8-30	12-40	
150.mic	**2.80**	0-10	0-10	0-10	

A-3. TARGET MEAN STRENGTH OF CONCRETE:-

For a tolerance factor of 1.65 and using Table 1 of IS: 10262-2009, Target mean strength for the specified characteristic cube strength is $25 + 1.65 \times 4.0 = 31.60$ N/mm^2

A-4. SELECTION OF WATER CEMENT RATIO:-

From Table 5 of IS 456, maximum water-cement ratio = 0.50
Based on experience, adopt water-cement ratio as = 0.50
0.50 is equal to 0.50, hence O.K

SEECO LABORATORIES Bangalore

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

A-5. SELECTION OF WATER CONTENT:

From Table 2 of IS 10262-2009, maximum water content = 186 lit (For 25 to 50mm slump range)

Estimated water content for 75 mm slump = 186+0.06x186=197 litre.

As Superplasticizer is used, the water content can be reduced upto 20% and above

Based on trails with Superplasticizer water content reduction of 14% has been achieved. Hence, the arrived water content= 197 x 0.86= 170 litres

A-6. DETERMINATION OF CEMENT CONTENT:-

Water Cement ratio = 0.50
Water = 170lts
Cement content = 170 / 0.5= 340 kgs

From Table 5 of IS :456, minimum cement content for moderate exposure condition = 320 Kgs/m^3

340 kgs/m^3 >320 Kgs/m^3, hence OK

Hence Cement Content = 340Kgs/ m^3

A-7 PROPORTION OF VOLUME OF COARSE AGGREGATE AND FINE AGGREGATE CONTENT

From Table 3, of IS 10262-2009, volume of coarse aggregate corresponding to 20mm size aggregate and fine aggregate Zone-II, for water -cement ratio 0.5= 0.62.

In the present case the water- cement ratio is 0.5: Therefore, no corrections applied to the volume of CA arrived above. Therefore, the proportion of volume of coarse aggregate for the water- cement ratio of 0. 5= 0.62.

For pump able concrete these values should be reduced by 10 %

Revised volume of coarse aggregate = 0.62x0.9=0.56

Volume of fine aggregate content = 1- 0.56= 0.44.

A-8 MIX CALCULATIONS

The mix calculations per unit volume of concrete shall be as follows

a) Volume of Concrete = 1m^3

b) Volume of cement
= (Mass of cement/ specific gravity of cement) x1/1000
= (340 / 3.1)(1 / 1000)
= 0.110 m^3

c) Volume of water
= (Mass of water / specific gravity of water) x1/1000
= (170 / 1)(1 / 1000)
= 0.170 m^3

SREE LABORATORIES Bangalore

Asst. Professor
Yeshwanthpura Sub Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

d) Volume of chemical admixture = Nil

e) Volume of all in aggregate = { a-(b+c+d)}

= 1- (0.110+0.170+0.00)

= 0.71 m^3

f) Mass of Coarse aggregate = (e) x Vol of CA X Sp. Gr of CA

= 0.71 x 0.56 x 2.6 x 1000

= 1035 kgs

g) Mass of fine aggregate = (e) x Vol of FA X Sp. Gr of FA

= 0.71 x 0.44 x 2.60 x 1000

= 812 kgs

A- 9 THE MIX PROPORTIONS FOR CONCRETE

Water	Cement	Fine aggregate	Coarse aggregate
170	340	812	1035
0.50	1	2.39	3.00

A-10. TEST RESULTS OF TRIAL MIX:-

1. Dimension of Specimen : 150mm x 150mm x 150mm
2. Grade of Concrete : M-25
3. Date of Casting : 03-03-2015
4. Date of Testing : 10-03-2015 (7 days Compressive Strength)

Quantities of Materials per Cubic Meter of Concrete					Concrete Characteristics		
Cement	Water	River Sand	Coarse Aggregate		Slump in mm	7days C.C.S N/ mm^2	28days C.C.S N/ mm^2
			Fraction I (65%)	Fraction II (35%)			
340	170	812	670	365	Upto 100 mm	20.72	----

A-11. REMARKS:-

1. The design mixes are applicable only for 43 Grade Zuari Cement.
2. All the materials shall be weigh batched and a saturated surface dry aggregate is used.
3. The bulk densities and specific gravities of materials to be used shall be confirmed by testing of

SEECO LABORATORIES Bangalore

Asst. Executive Engineer
Yeshwanthpura Sub-division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

d) Volume of chemical admixture = Nil

e) Volume of all in aggregate = { a-(b+c+d)}

= 1- (0.110+0.170+0.00)

= 0.71 m^3

f) Mass of Coarse aggregate = (e) x Vol of CA X Sp. Gr of CA

= 0.71 x 0.56 x 2.6 x 1000

= 1035 kgs

g) Mass of fine aggregate = (e) x Vol of FA X Sp. Gr of FA

= 0.71 x 0.44 x 2.60 x 1000

= 812 kgs

A- 9 THE MIX PROPORTIONS FOR CONCRETE

Water	Cement	Fine aggregate	Coarse aggregate
170	340	812	1035
0.50	1	2.39	3.00

A-10. TEST RESULTS OF TRIAL MIX:-

1. Dimension of Specimen : 150mm x 150mm x 150mm
2. Grade of Concrete : M-25
3. Date of Casting : 03-03-2015
4. Date of Testing : 10-03-2015 (7 days Compressive Strength)

Quantities of Materials per Cubic Meter of Concrete					Concrete Characteristics		
Cement	Water	River Sand	Coarse Aggregate		Slump in mm	7days C.C.S N/ mm^2	28days C.C.S N/ mm^2
			Fraction I (65%)	Fraction II (35%)			
340	170	812	670	365	Upto 100 mm	20.72	----

A-11. REMARKS:-

1. The design mixes are applicable only for 43 Grade Zuari Cement.
2. All the materials shall be weigh batched and a saturated surface dry aggregate is used.
3. The bulk densities and specific gravities of materials to be used shall be confirmed by testing of

SEECO LABORATORIES Bangalore

Asst. Executive Engineer
Yeshwanthpura Sub Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

such materials from time to time. If any deviation in the above parameters is observed, suitable corrections for proportions shall be applied at site.

4. Suitable correction is to be applied to water/cement ratio, if aggregates are not saturated and surface dry.
5. Minor adjustments in water/cement ratio may be carried out in actual work to get the desired slump, if necessary.
6. The sand to be used shall be free from all deleterious materials like silt, clay, and mica or any other Organic impurities. The gradation shall conform to IS: 383-1970.
7. The coarse aggregates used shall conform to the graded aggregates requirements as given in IS: 383-1970 (Reaffirmed - 2007)
8. At site, it is suggested to use suitable vibrators for compaction.
9. The quality of water to be used for concrete shall be conforming to IS 456-2000.
10. In the design calculations the degree of quality control is considered to be good. Hence, it is mandatory to exercise at least the same degree of quality control in the actual work.

****

A-12. REFERENCES

1. IS: 456: 2000 : Plain and Reinforced Concrete Code of practice. (Fourth Revision)
2. SP: 23 –1982 : Handbook on Concrete Mixes. (Based on Indian Standards)
3. IS: 10262-2009 (Revised) : Recommended guidelines for concrete mix design.
4. IS: 516-1959 (Reaffirmed 1990) : Method of test for strength of concrete
5. IS: 383-1970 (Reaffirmed 2007) : Indian standard specification for coarse and fine aggregates from natural sources for concrete
6. IS: 8112-1989 : Indian standard specifications for 43 grade ordinary Portland cement.
7. N. Krishna Raju : "Design of concrete Mixes" M/s (BS publisher & Distributors. Delhi)

* * * * * *

SEECO LABORATORIES
Bangalore

C. Shanasheka

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

JAS-ANZ
MA570910IN
SEECO
An ISO 9001 - 2008 Certified Company

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company
Building, Geo-Tech & Highway Material Research Laboratory
Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653
E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 12-05-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (07days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}
Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.
Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Lift - III

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	04-05-15	11-05-15	07	22500	465	20.66	20.29
	002	"	"	"	"	450	20.00	
	003	"	"	"	"	455	20.22	

*As Furnished by Client.
The Results relate only to the items tested.

C. Shanashetar
SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

SEECO LABORATORIES

An ISO 9001 : 2008 Certified Company

Building, Soil, Rock & Highway Material Research Laboratory

Ph : 080 2314 0847 Cell : 9886189618, 9900140618

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 02-06-2015

1. **TEST REPORT ON CEMENT CONCRETE CUBES :**

Sub: Testing of Concrete Cubes (28days Compressive Strength)
(Project: Development of water body at 1st Park in ward No-17 .)

Sample supplied to lab by : Sri V M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M25
Location* : Lift - III

TABLE 1.1 :

Sl No	Location Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm²	Maximum Load in K.N	Compressive Strength (N/mm²)	Avg. Value
1	001	04-05-15	01-06-15	28	22500	630	27.33	28.07
	002	"	"	"	"	640	28.44	
	003	"	"	"	"	635	28.22	

*As Furnished by Client.

The Results relate only to the items tested.

SEECO LABORATORIES
125, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1.

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

water body @ J.P Park

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 14-05-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (07days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Lift - III

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	06-05-15	13-05-15	07	22500	490	21.77	21.40
	002	"	"	"	"	475	21.11	
	003	"	"	"	"	480	21.33	

*As Furnished by Client.

The Results relate only to the items tested.

C. Shanashetar

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

JAS-ANZ
M4570910N
SEECO
An ISO 9001 - 2008 Certified Company

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company
Building, Geo-Tech & Highway Material Research Laboratory
Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653
E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 04-06-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (28days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}
Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.
Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Lift - III

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	06-05-15	03-06-15	28	22500	615	27.33	27.85
	002	"	"	"	"	630	28.00	
	003	"	"	"	"	635	28.22	

*As Furnished by Client.
The Results relate only to the items tested.

C. Shanashetar
SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore

Scanned by CamScanner

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 08-05-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (07days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Lift - III

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	30-04-15	07-05-15	07	22500	480	21.33	**20.81**
	002	"	"	"	"	470	20.88	
	003	"	"	"	"	455	20.22	

*As Furnished by Client.

The Results relate only to the items tested.

C. Shanashetar

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 29-05-2015

1. **TEST REPORT ON CEMENT CONCRETE CUBES :**

Sub: Testing of Concrete Cubes (28days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Lift - III

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	30-04-15	28-05-15	28	22500	640	28.44	28.07
	002	"	"	"	"	625	27.77	
	003	"	"	"	"	630	28.00	

*As Furnished by Client.

The Results relate only to the items tested.

C. Shanashetar

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

JAS-ANZ
M4570910IN
SEECO
An ISO 9001 - 2008 Certified Company

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company
Building, Geo-Tech & Highway Material Research Laboratory
Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653
E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 11-05-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (07days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}
Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.
Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Lift - III

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	02-05-15	09-05-15	07	22500	470	20.88	21.40
	002	"	"	"	"	485	21.55	
	003	"	"	"	"	490	21.77	

*As Furnished by Client.
The Results relate only to the items tested.

C. Shara Shetar
SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Peenya Bangalore

Scanned by CamScanner

JAS-ANZ
M4570910IN
SEECO
An ISO 9001 - 2008 Certified Company

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company
Building, Geo-Tech & Highway Material Research Laboratory
Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653
E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 01-06-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (28days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}
Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.
Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Lift - III

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	02-05-15	30-05-15	28	22500	640	28.44	27.92
	002	"	"	"	"	620	27.55	
	003	"	"	"	"	625	27.77	

*As Furnished by Client.
The Results relate only to the items tested.

C. Bhanu shetar
SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeshwanthpura Sub Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

JAS-ANZ
M4570910IN
SEECO
An ISO 9001 - 2008 Certified Company

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company
Building, Geo-Tech & Highway Material Research Laboratory
Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653
E-mail : seecolab@gmail.com Web : www.seecoindia.com

Date: 06-03-2015

SL No	Details	For 16 mm		For 20mm		For 25mm	
		Test Results	Min Req. as per IS 1786-2008	**Test Results**	Min Req as per IS 1786-2008	**Test Results**	Min Req as per IS 1786-2008
01	Observed diameter of bar	**16.0 mm**	16.0 mm	**20.0 mm**	20.0 mm	**25.0mm**	25.0mm
02	Observed Wt/m Length **Kg/m**	**1.584**	1.483	**2.475**	2.366	**3.860**	3.697
03	Proof stress/Yield stress, fy , **N/mm^2**	**562.0**	500.0	**555.0**	500.0	**557.0**	500.0
04	Bend/ Re bend Test	**Ok**	---	**Ok**	---	**Ok**	---
05	Percentage of Elongation, %	**19.50**	16.00	**21.80**	16.00	**22.40**	16.00
06	Ultimate Tensile Strength **N/mm^2**	**646.0**	565.0	**622.0**	565.0	**618.0**	565.0

*As furnished by Client.
The Results relate only to the items tested.

SEECO LABORATORIES Bangalore

C. Shanashetar
SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 19-03-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (07days Compressive Strength)

{Project*:Development of water body at J.P Park in ward No-17 .}

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Footing

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	11-03-15	18-03-15	07	22500	470	20.88	20.51
	002	"	"	"	"	455	20.22	
	003	"	"	"	"	460	20.44	

*As Furnished by Client.

The Results relate only to the items tested.

C. Shana Shetar

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

made @ J.P Park

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 19-03-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (07days Compressive Strength)

{Project*:Development of water body at J.P Park in ward No-17 .}

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Footing

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	12-03-15	19-03-15	07	22500	435	19.33	19.55
	002	"	"	"	"	445	19.78	
	003	"	"	"	"	440	19.56	

*As Furnished by Client.

The Results relate only to the items tested.

C. Shana Shetty

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

made @ J.P Park

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company
Building, Geo-Tech & Highway Material Research Laboratory
Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653
E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 09-04-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (28days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}
Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.
Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Footing

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	12-03-15	09-04-15	28	22500	620	27.55	27.25
	002	"	"	"	"	605	26.88	
	003	"	"	"	"	615	27.33	

*As Furnished by Client.
The Results relate only to the items tested.

C Shana shetty

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 11-04-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (28days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M25
Location* : Footing

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	13-03-15	10-04-15	28	22500	640	28.44	28.14
	002	"	"	"	"	625	27.77	
	003	"	"	"	"	635	28.22	

*As Furnished by Client.

The Results relate only to the items tested.

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 15-04-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (28days Compressive Strength)

{Project*:Development of water body at J.P Park in ward No-17 .}

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Footing

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	16-03-15	13-04-15	28	22500	645	28.66	**28.14**
	002	"	"	"	"	625	27.77	
	003	"	"	"	"	630	28.00	

*As Furnished by Client.

The Results relate only to the items tested.

C Shanashekar
SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 15-04-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (28days Compressive Strength)

{Project*:Development of water body at J.P Park in ward No-17 .}

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Footing

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	17-03-15	15-04-15	29	22500	610	27.11	27.62
	002	"	"	"	"	630	28.00	
	003	"	"	"	"	625	27.77	

*As Furnished by Client.

The Results relate only to the items tested.

C. Shanashetter

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 21-04-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (28days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Lift - I

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	23-03-15	20-04-15	28	22500	625	27.77	28.14
	002	"	"	"	"	635	28.22	
	003	"	"	"	"	640	28.44	

*As Furnished by Client.

The Results relate only to the items tested.

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 23-04-2015

1. **TEST REPORT ON CEMENT CONCRETE CUBES :**

Sub: Testing of Concrete Cubes (28days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Lift - I

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	25-03-15	22-04-15	28	22500	605	26.88	**27.40**
	002	"	"	"	"	620	27.55	
	003	"	"	"	"	625	27.77	

*As Furnished by Client.

The Results relate only to the items tested.

C. Shara Shetty

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 30-04-2015

1. **TEST REPORT ON CEMENT CONCRETE CUBES :**

Sub: Testing of Concrete Cubes (28days Compressive Strength)

{Project*:Development of water body at J.P Park in ward No-17 .}

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Lift - II

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	01-04-15	29-04-15	28	22500	600	26.66	27.11
	002	"	"	"	"	620	27.55	
	003	"	"	"	"	610	27.11	

*As Furnished by Client.

The Results relate only to the items tested.

C. Shara shetty

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2214 9897 Cell : 9686133615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 30-04-2015

1. **TEST REPORT ON CEMENT CONCRETE CUBES :**

Sub: Testing of Concrete Cubes (28days Compressive Strength)

(Project: Development of water body at J.P Park in ward No-17.)

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer

Yeswanthpura Sub-Division

BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M25

Location* : Lift - II

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	CS Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	01-04-15	29-04-15	28	22500	615	27.33	26.96
	002	"	"	"	"	595	26.44	
	003	"	"	"	"	610	27.11	

*As Furnished by Client.

The Results relate only to the items tested.

SEECO LABORATORIES
12/2, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

Page No. 1/1.

Asst. Executive Engineer
Yeshwanthpura Sub-Division
BBMP, Bangalore

Scanned by CamScanner

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company

Building, Geo-Tech & Highway Material Research Laboratory

Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653

E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 11-04-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (07days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}

Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.

Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Lift - II

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	03-04-15	10-04-15	07	22500	470	20.88	20.51
	002	"	"	"	"	460	20.44	
	003	"	"	"	"	455	20.22	

*As Furnished by Client.

The Results relate only to the items tested.

C Shanashekar

SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Page No. 1/1,

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Scanned by CamScanner

JAS-ANZ
M4570910IN
SEECO
An ISO 9001 - 2008 Certified Company

SEECO LABORATORIES

An ISO 9001 - 2008 Certified Company
Building, Geo-Tech & Highway Material Research Laboratory
Ph. : 080 2314 9897 Cell : 9686189615, 99002 60653
E-mail : seecolab@gmail.com Web : www.seecoindia.com

DATE: 28-05-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES :

Sub: Testing of Concrete Cubes (28days Compressive Strength)
{Project*:Development of water body at J.P Park in ward No-17 .}
Sample supplied to lab by : Sri N.M Krishnamurthy, Contractor.
Report required for: Assistant Executive Engineer
Yeswanthpura Sub-Division
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{25}
Location* : Lift - III

TABLE 1.1 :

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	29-04-15	27-05-15	28	22500	620	27.55	**27.03**
	002	"	"	"	"	605	26.88	
	003	"	"	"	"	600	26.66	

*As Furnished by Client.
The Results relate only to the items tested.

C. Shanashetar
SEECO LABORATORIES
12/5, 14th 'C' Cross, Agrahara Dasarahalli
Behind Rajajinagar Industrial Town
BANGALORE-560 079

SEECO LABORATORIES Bangalore

Asst. Executive Engineer
Yeshwanthpura Sub-Division
Bruhat Bangalore Mahanagara Palike

Bangalore Mahanagara Palike
Scanned by CamScanner